What is claimed is:

11. (New) A method of fabricating a nano-scaled semiconductor, comprising the steps of:

providing a substrate;

aligning a movable tip of the probe of a scanning electron microscope relative to the substrate;

utilizing a temperature and pressure controlled atmosphere of a mixture of a plurality of precursor gases of an adjustable mixing ratio, each containing a precursor compound of a different material component;

providing as a function of voltage and time a spatially limited electric field between the tip and the substrate to break down the precursor compounds to release their respective different material components for forming and precipitating a common chemical compound as a semiconductor on the substrate.

12. (New) The method of claim 11, wherein the precursor gases are utilized simultaneously.

13. (New) The method of claim 11, wherein the precursor gases are utilized sequentially.

14. (New) The method of claim 11, wherein the material components are selected from the group consisting of at least one element of chemical groups V and VI and of at least one element of chemical groups I, II, III and IV.

15. (New ) The method of claim 14, wherein the element of chemical groups V and VI is tellurium and the element from groups I, II, III and IV is cadmium reacting into the chemical compound cadmium telluride semiconductor.

16. (New) The method of claim 14, wherein the compound semiconductor

comprises a chalco-pyrite from the material system of (Cu, Ag) (Ga, In, Al) $(O, S, Se)_2$.

17. (New) The method of claim 11, wherein the use of at least one of the precursor gases and the mixing ratio thereof in the gas mixture is chronologically varied during precipitation.

18. (New) The method of claim 11, further including the step of utilizing a computer for determining and controlling all parameter variations as a function of the precipitated common chemical compound.

19. (New) The method of claim 11, wherein the substrate is flexible.

20. (New) The method of claim 11, further including the step of incrementally moving the tip.

21. (New) The method of claim 17, wherein the precipitated common chemical compounds vary in spectral sensitivity.

22. (New) The method of claim 21, wherein the spectral sensitivity of the chemical compound varies between the primary colors of red, green and blue.

23. (New) The method of claim 20, further including the step of precipitating the common chemical compound in synchronism with the movement of the tip.

24. (New) The method of claim 23, further comprising the step of placing a semiconductive cover layer between individual common chemical compounds.

25. (New) The method of claim 24, wherein the cover layer is an insulating

layer.

26. (New) The method of claim 25, wherein the insulating layer is of a charge conductivity opposite that of the individual common chemical compounds. .

27. (New) A semiconductor element fabricated by the method of claim 26, comprising an array of a plurality of precipitated micro-dots forming at least one of a plurality of photo diodes and light emitting diodes.

28. (New) The semiconductor of claim 27, wherein the array comprises a regularly repeating pattern of at least one of the plurality of photo diodes and light emitting diodes.

29. (New) The semiconductor of claim 27, further comprising a semiconductive cover layer of a charge conductivity opposite that of the photo diodes and light emitting diodes is provided between individual photo diodes and light emitting diodes.